

Work Order ID 132415

May-07-15 2:41:10 PM

132415

Page 1

Item ID: D2939-2

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Saddle RH In, 206

Start Date: 5/07/15 Start Qty: 8.00

8

Cust Item ID:

Required Date: 5/07/15 Req'd Qty: 8.00

8

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr

Revision Nbr

D2939

Rev C

100

0.01

100

HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.12

HAAS CNC vertical machine #1

Program part number and batch number.1-Inspect part number and batch number are programmed correctly.2-Machine Step No 1 of Folio and visually inspect as per dwg D2939 & attached Dimension Sheet 3-Machine Step No 2 of Folio and visually inspect as per

8

0

DAS
20
9-89

15-05-27

110

0.00

110

CONVENTIONAL MILLING MACHINE

Mill Conv

Memo

0.00

Conventional Milling Machine

Machine Keyway and inspect per attached dimension sheet

8

0

DAS
20
9-89

15-05-27

120

QC Inspection performed by CMM

0.00

120

QC

Memo

0.00

Quality Control

8

0

mf
15/05/28

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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Page 2

Item ID: D2939-2

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Saddle RH In, 206

Start Date: 5/07/15 Start Qty: 8.00

8

Cust Item ID:

Required Date: 5/07/15 Req'd Qty: 8.00

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Run Start

NR1

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SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	QC8- Inspect parts - second check	0.00							
130									
QC	Memo	0.00							DAS 08 9-89
Quality Control									
140	Chemical Conversion Coat per QSI005 4.1	0.00							
140									
HandFinish	Memo	0.01							
Hand Finishing									
150	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
150									
Powdercoat	Memo	0.00							
Powder Coating									
	START TIME: 8:20								
	FINISH TIME: 8:50								

8 0 15-5-28. 888

8 0 15-5-29 888

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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Page 3

May-07-15 2:41:10 PM

Item ID: D2939-2 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Saddle RH In, 206
 Start Date: 5/07/15 Start Qty: 8.00 ***8*** Cust Item ID:
 Required Date: 5/07/15 Req'd Qty: 8.00 ***8*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	QC3- Inspect Part Finish	0.00							DAS 9 9-89
160									
QC	Memo	0.00							
Quality Control									

170	Identify as per dwg & Stock Location: <u>ST395</u>	0.00							
170									
Packaging	Memo	0.00							
Packaging									

180	QC21- Final Inspection - Work Order Release	0.00							
180									
QC	Memo	0.01							
Quality Control									

MAY 29 2015

MUF
15-5-29

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																	
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Picklist Print

May-07-15 2:41:10 PM

Page 1

Work Order ID: 132415

132415

Parent Item: D2939-2

D2939-2

Parent Item Name: Saddle RH In, 206

Start Date: 5/07/15

Required Date: 5/07/15

Start Qty: 8.00

Required Qty: 8.00

Comments: IPP: B 00.06.26 New DWG rev (mpp 2069)EC
IPP Rev:C As per Rev C 07-03-19 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6101-001 *D6101-001* Saddle Billet		Manufactured	No			100	Each	39.0000	1	8		DAS 20 9-89	15-05-22
									**	8			

Location

Loc Qty

Loc Code

MAT042

36

129986

36

MAT045

3

125829

3

8

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

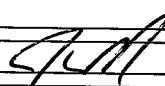
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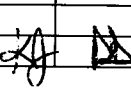
DART AEROSPACE LTD				Work Order: 132415	
Description: 206 Saddle, Inboard, Right side				Part Number: D2939-2	
Inspection Dwg: D2939 Rev: C DSK: Rev:				Page 1 of 1	

FIRST ARTICLE INSPECTION DIMENSION SHEET

☒ First Article ☐ Prototype

Dim	Min	Max	Go/No Go Gauge	Record Actual Dimensions				
				1	2	3	4	5
A	0.100	0.140		.117	.115	.117	.117	.117
B	0.100	0.140		.113	.117	.116	.115	.114
C	0.100	0.140		.124	.124	.125	.121	.123
D	0.210	0.230		.225	.223	.223	.223	.223
E	1.245	1.255		1.250	1.250	1.250	1.250	1.250
F	1.245	1.255		1.250	1.250	1.250	1.250	1.250
G	2.495	2.505		2.500	2.500	2.500	2.500	2.500
H	0.510	0.515		.510	.510	.510	.510	.510
I	1.572	1.582		1.577	1.577	1.577	1.577	1.577
J	2.495	2.505		2.500	2.500	2.500	2.500	2.500
K	0.257	0.262		.258	.258	.258	.258	.258
L	0.312	0.317		.314	.314	.314	.314	.314
M	0.235	0.240		.237	.236	.237	.236	.236
N	0.100	0.140		.120	.120	.120	.120	.120
O	0.540	0.560		.546	.547	.547	.548	.548
P	0.490	0.510		.498	.500	.497	.500	.500
Q	3.715	3.725		3.720	3.720	3.720	3.720	3.720
R	2.720	2.760		2.740	2.740	2.740	2.740	2.740
S	0.240	0.270		.247	.247	.249	.248	.248
T	0.100	0.180		.130	.130	.130	.130	.130
U	1.625	1.635		1.630	1.630	1.630	1.630	1.630
V	1.362	1.372		1.367	1.367	1.367	1.367	1.367
W	0.316	0.321		.316	.316	.316	.316	.316
X	1.250	1.270		1.2622	1.264	1.261	1.2617	1.2619
Y	1.565	1.585		1.5757	1.578	1.5738	1.5746	1.5754
Z	0.178	0.198		.188	.188	.188	.188	.188
AA								
AB								
AC								
AD								
Accept/Reject								

Measured by: 20 9-89	Date: 15-05-026
Audited by: 	Date: 15-05-27
Prototype Approval: N/A	Date: N/A

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.12.12	Re-format; Added Dim. X-Y, DT8683, DT8686, DT8690 & DT8695 A/B	KJ/RF	
C	07.03.21	Revised per drawing revision C	KJ/JLM	
D	07.11.23	DT8695 A/B removed	KJ/EC/DD	

DART AEROSPACE LTD		Work Order: 132415
Description: 206 Saddle, Inboard, Right side		Part Number: D2939-2
Inspection Dwg: D2939	Rev: C	Page 1 of 1

FIRST ARTICLE INSPECTION DIMENSION SHEET

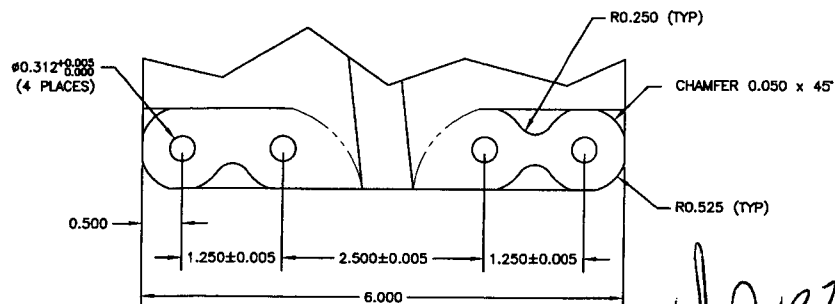
☒ First Article ☐ Prototype

Dim	Min	Max	Go/No Go Gauge	Record Actual Dimensions				
				6#	7#	8#	4	5
A	0.100	0.140		.119	.115	.117		
B	0.100	0.140		.113	.116	.114		
C	0.100	0.140		.122	.121	.122		
D	0.210	0.230		.224	.223	.223		
E	1.245	1.255		1.250	1.250	1.250		
F	1.245	1.255		1.250	1.250	1.250		
G	2.495	2.505		2.500	2.500	2.500		
H	0.510	0.515		.510	.510	.510		
I	1.572	1.582		1.577	1.577	1.577		
J	2.495	2.505		2.500	2.500	2.500		
K	0.257	0.262		.258	.258	.258		
L	0.312	0.317		.314	.314	.314		
M	0.235	0.240		.236	.235	.235		
N	0.100	0.140		.122	.121	.120		
O	0.540	0.560		.547	.548	.548		
P	0.490	0.510		.500	.500	.502		
Q	3.715	3.725		3.720	3.720	3.720		
R	2.720	2.760		2.740	2.740	2.740		
S	0.240	0.270		.248	.247	.249		
T	0.100	0.180		.130	.130	.130		
U	1.625	1.635		1.630	1.630	1.630		
V	1.362	1.372		1.367	1.367	1.367		
W	0.316	0.321		.316	.316	.316		
X	1.250	1.270		1.2636	1.2624	1.262		
Y	1.565	1.585		1.5776	1.5762	1.5754		
Z	0.178	0.198		.188	.188	.188		
AA								
AB								
AC								
AD								

Accept/Reject

Measured by: 20 9-89	Date: 15-05-27
Audited by: <i>J.M.</i>	Date: 15-05-27
Prototype Approval: N/A	Date: N/A

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.12.12	Re-format; Added Dim. X-Y, DT8683, DT8686; DT8690 & DT8695 A/B	KJ/RF	
C	07.03.21	Revised per drawing revision C	KJ/JLM	
D	07.11.23	DT8695 A/B removed	KJ/EC/DD	



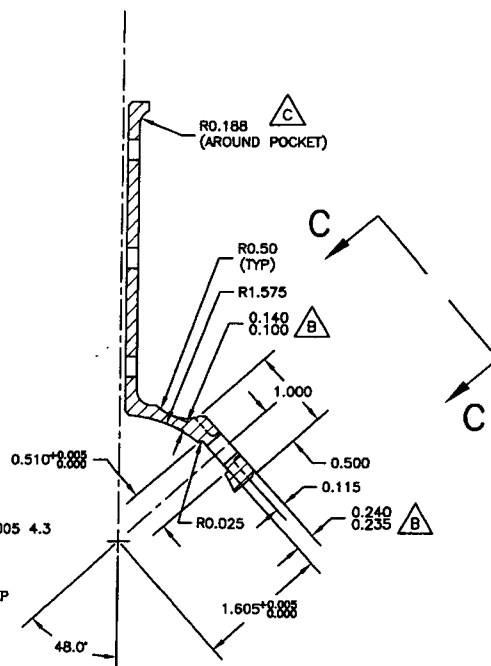
VIEW C-C

132415

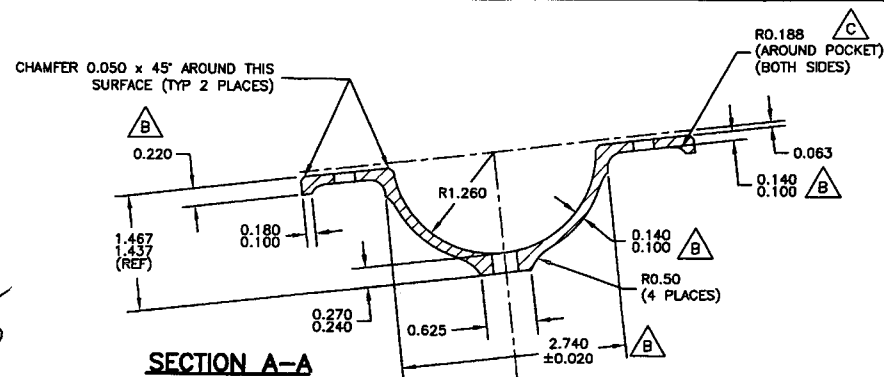
D2939-1 LH SADDLE (SHOWN)
D2939-2 RH SADDLE (OPPOSITE)

NOTES:

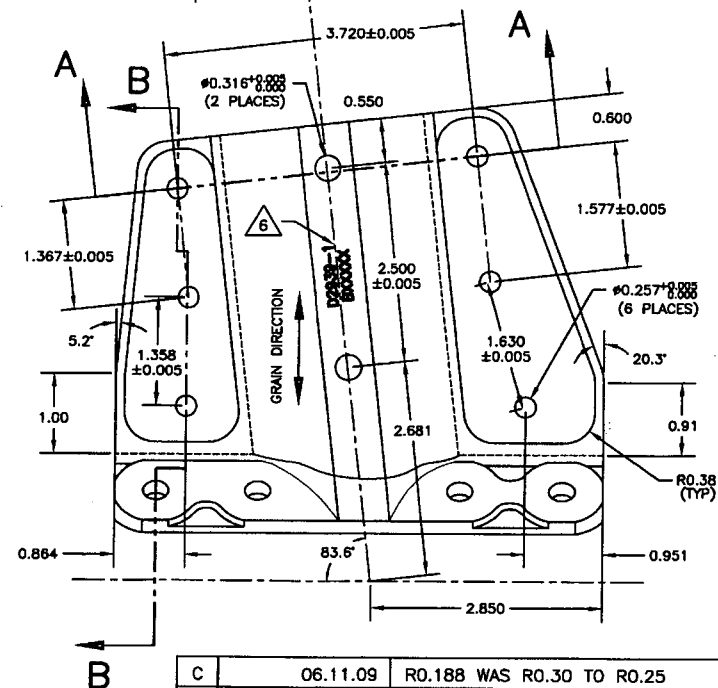
- 1) MATERIAL: ALUMINUM 7075-T7351 (QQ-A-250/12)
(MAKE FROM D6101-001 SADDLE BILLET, 7075)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
- 3) BREAK ALL SHARP EDGES 0.010 TO 0.020
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE INCHES
- 6) ENGRAVE PART AND BATCH NUMBER IN THIS AREA 0.010 TO 0.015 DEEP



SECTION B-B



SECTION A-A



C	06.11.09	R0.188 WAS R0.30 TO R0.25
B	00.05.29	CHANGED DEOMETRY AND MATERIAL
A	99.11.12	NEW ISSUE
DESIGN	4	DRAWN BY C.B.
CHECKED	PH	APPROVED
DATE	06.11.09	
DRAWING NO.	D2939	REV. C
TITLE	SADDLE INSIDE	SHEET 1 OF 1
		SCALE 2:3

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DART DART AEROSPACE USA, INC.
BELLEVUE, WA



Part Number: D2939-2	Rev: C	- Page 1 -
Description: SADDLE INSIDE	Inspection Dwg: D2939	Work Order: 132415

Name	Nominal	Upper Tol Lower Tol	No. Piece_1 Actual	No. Piece_2 Actual	No. Piece_3 Actual	No. Piece_4 Actual	No. Piece_5 Actual
A	0.120	0.020 -0.020	0.117	0.115	0.117	0.117	0.117
B	0.120	0.020 -0.020	0.113	0.117	0.116	0.115	0.114
C	0.120	0.020 -0.020	0.124	0.124	0.125	0.121	0.123
D	0.2200	0.0100 -0.0100	0.2221	0.2236	0.2225	0.2228	0.2230
E	1.2500	0.0050 -0.0050	1.2505	1.2503	1.2500	1.2507	1.2507
F	1.2500	0.0050 -0.0050	1.2481	1.2490	1.2487	1.2488	1.2488
G	2.5000	0.0050 -0.0050	2.4997	2.4996	2.4998	2.4993	2.4989
H	0.510	0.005 0.000	0.510	0.510	0.510	0.510	0.510
I	1.5770	0.0050 -0.0050	1.5777	1.5778	1.5779	1.5771	1.5782
J	2.5000	0.0050 -0.0050	2.4994	2.5002	2.4997	2.5001	2.4993
K Diameter	0.2570	0.0050 -0.0010	0.2576	0.2576	0.2573	0.2576	0.2574
L Diameter	0.3120	0.0050 -0.0010	0.3130	0.3133	0.3132	0.3129	0.3132
M	0.235	0.005 0.000	0.237	0.236	0.237	0.236	0.236
N	0.1200	0.0200 -0.0200	0.1198	0.1212	0.1200	0.1202	0.1205
O	0.5500	0.0100 -0.0100	0.5523	0.5520	0.5526	0.5522	0.5522
P	0.5000	0.0100 -0.0100	0.4987	0.5010	0.5016	0.5023	0.5025
Q	3.7200	0.0050 -0.0050	3.7196	3.7192	3.7188	3.7183	3.7188

Measured by:
Mathieu Lamarche

Date:
2015-5-28

Audited by:

Date:



Part Number: D2939-2	Rev: C	- Page 2 -
Description: SADDLE INSIDE	Inspection Dwg: D2939	Work Order: 132415

Name	Nominal	Upper Tol Lower Tol	No. Piece_1 Actual	No. Piece_2 Actual	No. Piece_3 Actual	No. Piece_4 Actual	No. Piece_5 Actual
R	2.7400	0.0200 -0.0200	2.7421	2.7422	2.7423	2.7423	2.7424
S	0.255	0.015 -0.015	0.247	0.247	0.249	0.248	0.248
T	0.140	0.040 -0.040	0.130	0.130	0.130	0.130	0.130
U	1.6300	0.0050 -0.0050	1.6301	1.6296	1.6296	1.6301	1.6296
V	1.3670	0.0050 -0.0050	1.3676	1.3672	1.3675	1.3679	1.3673
W Diameter	0.3160	0.0050 -0.0010	0.3154	0.3150	0.3152	0.3152	0.3152
X	1.260	0.010 -0.010	1.262	1.262	1.261	1.262	1.262
Y	1.575	0.010 -0.010	1.576	1.578	1.574	1.575	1.575
Z Radius	0.1880	0.0100 -0.0100	0.1904	0.1907	0.1906	0.1906	0.1905

Measured by:
Mathieu Lamarche

Date:
2015-5-28

Audited by:

Date:



Part Number: D2939-2	Rev: C	- Page 1 -
Description: SADDLE INSIDE	Inspection Dwg: D2939	Work Order: 132415

Name	Nominal	Upper Tol Lower Tol	No. Piece_6 Actual	No. Piece_7 Actual	No. Piece_8 Actual		
A	0.120	0.020 -0.020	0.119	0.119	0.117		
B	0.120	0.020 -0.020	0.113	0.113	0.114		
C	0.120	0.020 -0.020	0.122	0.122	0.122		
D	0.2200	0.0100 -0.0100	0.2237	0.2228	0.2222		
E	1.2500	0.0050 -0.0050	1.2496	1.2497	1.2505		
F	1.2500	0.0050 -0.0050	1.2487	1.2488	1.2481		
G	2.5000	0.0050 -0.0050	2.4997	2.5001	2.4996		
H	0.510	0.005 0.000	0.510	0.510	0.510		
I	1.5770	0.0050 -0.0050	1.5771	1.5774	1.5776		
J	2.5000	0.0050 -0.0050	2.4996	2.4993	2.4995		
K Diameter	0.2570	0.0050 -0.0010	0.2576	0.2578	0.2576		
L Diameter	0.3120	0.0050 -0.0010	0.3133	0.3135	0.3130		
M	0.235	0.005 0.000	0.236	0.236	0.235		
N	0.1200	0.0200 -0.0200	0.1212	0.1201	0.1198		
O	0.5500	0.0100 -0.0100	0.5516	0.5506	0.5522		
P	0.5000	0.0100 -0.0100	0.5026	0.4994	0.4987		
Q	3.7200	0.0050 -0.0050	3.7183	3.7186	3.7197		

Measured by:
Mathieu Lamarche

Date:
2015-5-28

Audited by:

Date:

15.05.27



Part Number: D2939-2	Rev: C	- Page 2 -
Description: SADDLE INSIDE	Inspection Dwg: D2939	Work Order: 132415

Name	Nominal	Upper Tol Lower Tol	No. Piece_6 Actual	No. Piece_7 Actual	No. Piece_8 Actual		
R	2.7400	0.0200 -0.0200	2.7424	2.7422	2.7423		
S	0.255	0.015 -0.015	0.248	0.248	0.249		
T	0.140	0.040 -0.040	0.130	0.130	0.130		
U	1.6300	0.0050 -0.0050	1.6299	1.6308	1.6302		
V	1.3670	0.0050 -0.0050	1.3675	1.3674	1.3678		
W Diameter	0.3160	0.0050 -0.0010	0.3152	0.3155	0.3154		
X	1.260	0.010 -0.010	1.264	1.262	1.262		
Y	1.575	0.010 -0.010	1.578	1.576	1.575		
Z Radius	0.1880	0.0100 -0.0100	0.1907	0.1904	0.1905		

Measured by:
Mathieu Lamarche

Date:
2015-5-28

Audited by:

Date:

15.05.27